CLAIMS:

1. A semiconductor processing method comprising:

forming a metal silicide layer over a substrate;

depositing a layer comprising silicon, nitrogen and oxygen over the metal silicide layer; and

while the layer comprising silicon, nitrogen and oxygen is over the metal silicide layer, annealing the metal silicide layer.

2. The method of claim 1 wherein the layer comprising silicon, nitrogen and oxygen comprises $Si_xN_yO_z$:H, wherein x is from 0.39 to 0.65, y is from 0.02 to 0.56, and z is from 0.05 to 0.33.

3. The method of claim 2 further comprising forming a layer of silicon nitride over the layer comprising silicon, nitrogen, oxygen and hydrogen.

4. The method of claim 2 further comprising forming a layer of silicon nitride over the layer comprising silicon, nitrogen, oxygen and hydrogen before the annealing.

5. The method of claim 1 wherein the depositing comprises chemical vapor deposition.

6. The method of claim 1 further comprising forming a layer of silicon nitride over the layer comprising silicon, nitrogen and oxygen.

7. The method of claim 1 further comprising forming a layer of silicon nitride over the layer comprising silicon, nitrogen and oxygen before the annealing.

8. A semiconductor processing method comprising:

forming a metal silicide layer over a substrate;

depositing a layer comprising silicon, nitrogen and oxygen over the metal silicide layer; and

forming a layer of silicon nitride over the layer of silicon, nitrogen and oxygen.

9. The method of claim 8 wherein the layer comprising silicon, nitrogen and oxygen comprises $Si_xN_yO_z$:H, wherein x is from 0.39 to 0.65, y is from 0.02 to 0.56, and z is from 0.05 to 0.33.

10. The method of claim 8 wherein the depositing comprises chemical vapor deposition.

11. A semiconductor processing method comprising:

forming a metal silicide layer over a substrate;

chemical vapor depositing an antireflective material layer in physical contact with the metal silicide;

forming a layer of photoresist over the antireflective material layer; and

photolithographically patterning the layer of photoresist.

12. The method of claim 11 wherein the deposited antireflective material layer comprises silicon, nitrogen and oxygen.

13. The method of claim 11 wherein the deposited antireflective material layer comprises silicon, nitrogen, oxygen and hydrogen.

14. The method of claim 11 further comprising forming a silicon nitride layer over the deposited antireflective material layer, and wherein the layer of photoresist is formed over the silicon nitride layer.

15. A gate stack forming method, comprising:

forming a polysilicon layer over a substrate;

forming a metal silicide layer over the polysilicon layer;

depositing an antireflective material layer over the metal silicide layer;

forming a silicon nitride layer over the antireflective material layer;

forming a layer of photoresist over the silicon nitride layer;

photolithographically patterning the layer of photoresist to form a patterned masking layer from the layer of photoresist; and

transferring a pattern from the patterned masking layer to the silicon nitride layer, antireflective material layer, metal silicide layer and polysilicon layer to pattern the silicon nitride layer, antireflective material layer, metal silicide layer and polysilicon layer into a gate stack.

16. The method of claim 15 further comprising, while the antireflective layer is over the metal silicide layer, annealing the metal silicide layer.

17. The method of claim 15 wherein the depositing comprises chemical vapor deposition.

18. The method of claim 15 wherein the deposited antireflective material layer comprises silicon, nitrogen, oxygen and hydrogen.

19. The method of claim 15 wherein the deposited antireflective material layer comprises silicon, nitrogen and oxygen.

20. The method of claim 19 wherein the layer comprising silicon, nitrogen and oxygen physically contacts the metal silicide layer.

21. The method of claim 19 wherein the silicon nitride layer physically contacts the layer comprising silicon, nitrogen and oxygen.

22. The method of claim 19 wherein the silicon nitride layer physically contacts the layer comprising silicon, nitrogen and oxygen, and the layer comprising silicon, nitrogen and oxygen physically contacts the metal silicide layer.

23. Circuitry comprising:

a metal silicide layer over a semiconductive substrate; and

a substantially inorganic layer comprising silicon, nitrogen and oxygen in physical contact with the metal silicide layer.

24. The circuitry of claim 23 wherein the layer comprising silicon, nitrogen and oxygen is over the metal silicide layer, and further comprising a layer of silicon nitride over the layer comprising silicon, nitrogen and oxygen.

25. The circuitry of claim 23 wherein the layer comprising silicon, nitrogen and oxygen is over the metal silicide layer, and further comprising a layer of silicon nitride over and in physical contact with the layer comprising silicon, nitrogen and oxygen.

26. The circuitry of claim 23 wherein the layer comprising silicon, nitrogen and oxygen comprises $Si_xN_yO_z$:H, wherein x is from 0.39 to 0.65, y is from 0.02 to 0.56, and z is from 0.05 to 0.33.

27. A gate stack, comprising:

a polysilicon layer over a semiconductive substrate;

a metal silicide layer over the polysilicon layer;

a layer comprising silicon, oxygen and nitrogen over the metal silicide; and

a silicon nitride layer over the layer comprising silicon, oxygen and nitrogen.

28. The circuitry of claim 27 wherein the layer comprising silicon, nitrogen and oxygen comprises $Si_xN_yO_z$:H, wherein x is from 0.39 to 0.65, y is from 0.02 to 0.56, and z is from 0.05 to 0.33.

29. The circuitry of claim 27 wherein the layer comprising silicon, nitrogen and oxygen physically contacts the metal silicide layer.

30. The circuitry of claim 27 wherein the silicon nitride layer physically contacts the layer comprising silicon, nitrogen and oxygen.

31. The circuitry of claim 27 wherein the silicon nitride layer physically contacts the layer comprising silicon, nitrogen and oxygen, and the layer comprising silicon, nitrogen and oxygen physically contacts the metal silicide layer.